ABSTRACT

The hygiene in a cowshed is extremely important for the cows well being and health and when it comes to keep a high production of quality milk. As more and more producers choose loose-housing systems for their cows the demand for better buildings and equipment is increasing. This study concentrates on how the floor systems used in the alleys and the cubicles height over the floor affects the hygiene in the cowshed. There are many aspects to take into consideration besides hygiene and well being of the cows but this study can be seen as a part of the recommendations how to design a cowshed.

The different floor systems that were involved in the study were two compartments with mastic asphalt and scrapes with cubicles that were situated with different height over the floor and a compartment with concrete slatted floor without scrapes.

In this study several examinations were performed to compare the hygiene in the three compartments. Ash content analysis was performed to give the amount of manure on the lying area in the cubicles. The hygiene was further compared with bacterial analyses using coliform bacteria and spores from *Clostridium tyrobutyricum* and *Bacillus cereus*. The dirtiness of the udders and teats were estimated visually by giving scores on a continuous scale. To get some indication of how the milk quality was affected by the hygiene in the cows’ local environment somatic cell counts were recorded and analysed.

All results indicate that the hygiene is best in the compartment with mastic asphalt and scrapes with cubicles situated higher over the floor. The amount of manure in the cubicles was lower compared to the other compartments and the number of coliform bacteria was lower. The animals were much cleaner in this compartment and the somatic cell count was lower. The compartment with mastic asphalt and low situated cubicles seemed to be the one with the most poorly hygiene in all experiments except the ash content analysis were the slatted floor compartment was the one with the highest amount of manure.

The conclusion drawn from this study is that cubicles well elevated above the alley is important to maintain a good hygiene for the cows in the lying area. Whether the slatted floor without scrapes or the mastic asphalt floor with scrapes gives the best hygiene when the cubicles are situated at the same low height is difficult to confirm from this study since the results point in different directions.